REMARKS

Of claims 1-23 which were contained in the original application, claims 15-17, drawn to a process for forming a thermally imaged multi-layered laminate construction, have been withdrawn from further consideration, as being drawn to a non-elected invention. Applicants reaffirm the election of Group I claims (claims 1-14 and 18-23), with traverse.

Claims 1, 12 and 18 have been amended to include the term "opaque", in reference to the paper or polymeric support material and these claims have also been amended to better and more carefully define the scope of the invention. Antecedent basis for this amendment is found in paragraph [010], lines 2-4, and paragraph [011], line 7. In addition, these claims have been amended to more clearly define the color-developing mechanism as a chomogenic material functioning via an electron transfer mechanism (see paragraph [014] of this pending application).

Double Patenting Rejection

Claims 1, 2, 4, 5, 7, 18 and 19 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting, over claims 1, 2, 16 and 20 of co-pending application 10/678/020.

Upon allowance of this application, a timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) will be submitted in order to overcome this rejection.

Rejections Under 35 U.S.C. §112, second paragraph

Claims 1-14 and 18-23 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.

Claim 1:

Claim 1 recites the limitation "first surface of the metal oxide layer." The Examiner maintains that there is insufficient antecedent basis for this limitation in the claim. Claim 1 has been amended to include the language "having a first surface" to further define the metal oxide layer. Antecedent basis for this additional language is found in paragraph [008], line 4 of this pending application. Thus, the Examiner's rejection of claim 1 under 35 U.S.C. §112, second paragraph, has been overcome and should be withdrawn.

Claim 9:

The Examiner states that the phrase "one or more color coating layers applied to the binder layer" in claim 9 is unclear, which renders the claim vague and indefinite.

Claim 9 has been amended to define the location of the binder layer, with respect to the other layers of the laminate. Antecedent basis for this amendment is found in paragraph [003], lines 9-10; paragraph [037], line 7-8; and Figure 1. Thus, the Examiner's rejection of claim 9 under 35 U.S.C. §112, second paragraph, has been overcome and should be withdrawn.

Claim 12:

The Examiner states that the phrase "a UV-cured chemical resistant barrier topcoat generally covering the entire first surface" is unclear, which renders the claim vague and indefinite. Claim 12 has been amended to better define that it is the entire first (or top) surface of the laminated label which is covered by the topcoat. Antecedent basis for this amendment is found in paragraph [031] line 2; paragraph [032], lines 12-13; and Figure 1.

The Examiner maintains that the phrase "a support material comprising a polyester base layer coated on a first surface" in claim 12 is unclear, rendering the claim vague and indefinite. Claim 12 has been amended to clarify the juxtaposition of the polyester base layer and the aluminum oxide layer. Antecedent basis for this amendment is found in paragraph [003], lines 3-4 and lines 7-10; and Figure 1. Thus, the Examiner's rejection of claim 12 under 35 U.S.C. §112, second paragraph, has been overcome and should be withdrawn.

Claim 18:

The Examiner states that the phrases "an active direct thermal layer, having a first and second surface, overlying said first surface of the aluminum oxide layer" and "a direct thermal top coat layer which covers the first surface of the aluminum oxide layer in claim 18 are unclear, rendering the claim vague and indefinite. Claim 18 has been amended to clarify the structure of the laminate and juxtaposition of the aluminum oxide layer relative to the active direct thermal layer and the direct thermal top coat layer. Antecedent basis for this amendment is found in paragraph [009], lines 9-11. Thus, the Examiner's rejection of claim 18 under 35 U.S.C. §112, second paragraph, has been overcome and should be withdrawn.

Claim 22:

The Examiner asserts that the phrase "one or more color coating layers applied to the binder layer" in claim 22 in unclear, rending the claim vague and indefinite in that there is no previous mention of the "binder layer" with regard to the other layers. Claim 22 has been amended to clarify the juxtaposition of the color coating layer with respect to the other layers. Antecedent basis for this amendment is found in paragraph [003], lines 19-22. Thus, the Examiner's rejection of claim 22 under 35 U.S.C. §112, second paragraph, has been overcome and should be withdrawn.

In view of the amendments to claims 1, 9, 12, 18 and 22, the rejections of claims 2-8, 10, 11, 13, 14, 19-21 and 23, which depend from these rejected base claims, are now moot.

Rejection Under 35 U.S.C. §102(b)

The Zait et al. rejection (USP 5,693,415)

The Examiner has rejected claims 1-6, 9, 18 and 19 under 35 U.S.C. 102(b) as being anticipated by Zait et al., (U.S. Patent No. 5,693,415). Zait et al. describes a composite film adhereable to a surface of an object for changing its thermal and optical properties. Zait et al. is silent as to whether or not the film of the '415 patent is opaque.

Claims 1, 12 and 18 have been amended so as to include the term "opaque", in reference to the paper or polymeric support material and to better define the laminate construction/label, generally. Antecedent basis for this amendment is found in paragraph [010], lines 2-4; paragraph [011], line 7 of the pending application.

Since Zait et al. does not teach or suggest every element of the present invention as now claimed, the Examiner's rejection under 35 USC §102(b) should be withdrawn.

In addition, Zait et al. cannot be the basis for an obviousness rejection since Zait et al. does not provide any teaching or motivation for the design of an opaque, thermally activated laminated recording media that is the subject of the pending application. The film of Zait et al. is intended to be applied a surface of an object, such as a window, for changing its thermal and optical properties, i.e., to create a "shade," but still allow light to transmit through the object – low visible light reflectivity and high IR reflectivity (col. 1, lines 63-67), not to render the object opaque.

Rejections Under 35 U.S.C. §103(a)

1) Claim 7 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Zait et al. in view of Ichiro et al. (EP 0 780 241). The Examiner argues that it would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided the radiation curable top coat on the top layer of Zait et al. in order to have a material with a high heat resistance, excellent thermal releasability and sufficient binding properties for improving the head-matching properties as taught by Ichiro et al. The Applicant respectfully traverses this rejection.

In making this rejection, the Examiner maintains that Zait et al. disclose a multi-layered laminate construction, but fail to disclose a radiation-curable topcoat applied to the top layer of the laminate.

To review, the subject matter of the Zait et al. patent is an aluminum-based composite film, produced by thermal evaporation, which is adhered to a surface of an object, such as a window, for changing its thermal and optical properties (col. 1, lines 53-56). In particular, Zait et al. describe a vacuum deposition technique to produce an aluminum-based composite film of varying thicknesses and transmissivity (col. 4, lines 12- 42). The film of the '415 patent is intended to be non-glossy and have a neutral gray color desired for windows of buildings and vehicles (col. 5, lines 26-29), where there is no need for a radiation-curable top coat. In addition, there is no teaching, suggestion or motivation provided in Zait et al. to include a UV curable topcoat in the film composition.

Ichiro et al. teach a thermosensitive recording material with a paper or polymer substrate having a radiation-curable topcoat applied to the top layer of the laminate, for the purpose of having a material with high heat resistance, excellent thermal releasability and sufficient binding properties for improving head-matching properties. More specifically, Ichiro et al. is directed to improvements of head-matching properties of the thermosensitive recording medium when different colors are incorporated in the copy (paragraph [0009]) and in particular, development of a thermosensitive recording material comprising an electron donating material and an electron accepting material to be used to overcome the head-matching problems of conventional transparent or translucent thermosensitive recording media.

In citing Ichiro for this rejection, the Examiner refers to page 3, lines 21-23 of the patent as referring to a radiation-curable topcoat applied to the top layer of a laminate. However, this language is not attributable to Ichiro et al., but rather to EP-A-339670. This patent application is not incorporated by reference by Ichiro et al. but rather is merely described by Ichiro et al. Ichiro et al. is actually silent as to any type of UV-cured top coat as the top layer of a laminate. Further, the top coat described in EP-A-339670 is cured by electron beam (bombardment) on an monomer interlayer, resulting in grafting of macromonomer onto a resin. Chemically, this is very different and distinct from the UV-cured topcoat of the pending application, where there is also no grafting of macromonomers onto any type of layer.

Therefore, since Ichiro et al. is silent as to a top coat, there is no motivation or suggestion to combine Zait et al. in view of Ichiro and arrive at the laminate of the present invention as the Examiner maintains. In addition, EP-A-339670, which the Examiner erroneously cited, teaches the formation of a top layer which is grafted onto an underlying resin to form a macromonomer and this macromonomer is formed by electron bombardment. There is no teaching, suggestion or motivation in the '670 application to utilize a uv-cured top coat. Accordingly, this rejection under 35 U.S.C. §103(a) has been overcome and should be withdrawn.

2) Claims 7, 8, 20, 21, and 22 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Zait et al. in view of Chang (USP 5,898,017). The Examiner argues that it would have been obvious to one skilled in the art at the time the invention was made to have provided the radiation-curable topcoat and primer layer in Zait et al. in order to have a document having multiple coatings of Chang for the purpose of highlighting information and determining authenticity as taught by Chang. The Applicant respectfully traverses this rejection.

In making this rejection, the Examiner maintains that Zait et al. disclose a multi-layered laminate construction, where the formed image is read in the near infrared, and the laminate comprises one or more color coating layers applied to a binder layer. The Examiner also states that Zait et al. fail to disclose that the laminate further comprises a radiation-curable topcoat applied to the top layer of the laminate and a primer layer applied to the first surface of the active direct thermal layer.

In citing Chang, the Examiner argues that Chang teaches a laminate comprising a radiation-curable top coat applied to the top layer of the laminate as a protection coat and a primer layer that is applied to the first surface of the active direct thermal layer in a multicolor chromogenic system in a document having multiple coatings for the purpose of highlighting information and determining authenticity.

As an initial matter, this rejection, as formulated by the Examiner, is unclear and circuitous. The Examiner states (bottom of page 8 of this office action) that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the radiation-curable topcoat and primer layer in Zait et al. in order to have a document having multiple coatings of Chang for the purpose of highlighting information and determining authenticity as taught by Chang." However, by the Examiner's own admission, Zait et al. does not teach a radiation-curable topcoat layer, yet she cites this as an element taken from Zait et al to be combined with the teachings of Chang et al. to arrive at the laminate at the pending application.

Additionally, the laminate of the pending application does not possess the "multiple coatings" as defined by Chang (col. 7, lines 4-18) nor is it used to "highlight information and determine authenticity" (col. 8, lines 23-31) as the Examiner contends. Since the fundamental elements of the materials of Zait et al. and Chang are not present in the pending application, there can be no teaching, motivation or suggestion to combine the teachings of Zait et al. in view of Chang and arrive at the material of the pending application. Accordingly, this rejection under 35 U.S.C. §103(a) has been overcome and should be withdrawn.

3) Claims 10-14 and 23 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Zait et al. in view of Chang and Rochford et al. (USP 6,755,350). In making this rejection, the Examiner maintains that it would have been obvious for one of ordinary skill in the art at the time the Applicant's invention was made to have provided the radiation-curable topcoat and primer layer in Zait et al. in order to have document(s – *sic?*) having multiple (*multiply – sic?)* coatings to highlight information and determine authenticity, as taught by Chang, along with the release liner in order to have a label liner with desirable strength and toughness properties required for efficient transportation of the label in high speed equipment as taught by Rochford et al. The Applicant respectfully traverses this rejection.

As discussed earlier, Zait et al. does not disclose, teach or suggest a radiation-curable top coat and primer layer for the laminate (film) construction. And while Chang et al. does teach a material having multiple coatings for the purpose of highlighting information and determining authenticity, the laminate of the present invention does not possess these "multiple coatings" as defined by Chang (col. 7, lines 4-18) nor is the laminate of the pending application used to "highlight information and determine authenticity" (col. 8, lines 23-31) as the Examiner contends.

Rochford et al. is directed to a sensual pressure sensitive adhesive label comprising an image having at least one overcoat layer over said image, wherein said overcoat layer comprises at least one tactile or olfactory feature. In particular, the packaging labels of Rochford et al. are scented and provide a tactile feel and texture (abstract). According to Rochford et al., the "strength and toughness properties required for efficient transportation of the label in high speed equipment" is intended for labels which use a *silver halide* imaging system and is to be used in conjunction with silver halide printers to create a "sensual label" with both tactile and olfactory qualities (col. 5, lines 34-49).

The laminate of the pending application does not utilize a silver halide color – developing system, nor is it designed to be used with a high-speed silver halide printer as the labels of Rochford et al. are intended to be used. Rather, the laminate of the present invention uses a chromogenic material comprising leuco dye-electron transfer imaging system (see paragraph [014] of this pending application) and it is imaged thermally, using a very different type of machinery. In addition, the labels of the present invention do not possess any visual or olfactory qualities which might appeal to a consumer as the labels of the '350 patent are said to possess (col. 5, lines 38-40 of the '350 patent).

Accordingly, there is no teaching, suggestion or motivation to combine the teachings of Zait et al. in view of Chang and Rochford et al. to arrive at the laminate of the pending application. Therefore, this rejection under 35 U.S.C. §103(a) has been overcome and should be withdrawn.

In summary, the rejections under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §102(b) and 35 U.S.C. §103(a) have been overcome and should be withdrawn. Accordingly, the present application as amended herein, is now in form for allowance and early reconsideration and allowance of the claims, as currently pending, is earnestly solicited.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as EXPRESS mail in an envelope addressed to The Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, this 9th day of November, 2005.

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